Third West Weekly Report
Shepherd, Michael
to:
Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)'
01/04/2012 02:10 PM
Hide Details
From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbamitz@utah.gov)'" <cbamitz@utah.gov>

6 Attachments

Weekly Report 12-27 to 12-30.pdf Third West Weekly Log - 2011-52.pdf 226740-1.pdf 226820-1.pdf 226898-1.pdf

227019-1.pdf

Joyce & Craig,

Attached are the reports for the week of December 27, 2011.

All air monitoring results came back negative, except the two positive hits of chrysotile on Wednesday last week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
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801.220.2797 Fax
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PACIFICORP

R & R ENVIRONMENTAL, INC.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/27/11

General

- ☑ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
  - NA Illness/Injury Report Form A
  - NA Site-Specific Training Record Form C
  - NA Hot Work Permit Form D
  - NA Trench/Evacuation Permit Form E
  - NA Combined Space Entry Permit From F
  - ☑ Exclusion zone operations are practiced as instructed.
    - ☑ Decontamination unit is working properly.
    - ☑ Workers are using decontamination unit as instructed.
    - ☑ Workers use personal protective equipment properly.

- ☑ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
  Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☑ Review sign-in/sign-out log throughout and at the end of the workday.
- ☑ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☑ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

☑ Electronically file photo files into the on-site database

☑ Complete Field Documentation
- ☑ Field Sample Data Sheets (FSDS)
- ☑ Logbook
- NA On-site computer database

☑ Label each sample media with a unique number

☑ Seal sample(s) in zip lock plastic bags

☑ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory

☑ Package samples for transport lAW SOP 2-1, Packaging and Shipping of Environmental Samples

☑ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees

☑ Electronically file sample reports into on-site database

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 12/27/11

Location: 3rd West, 1st South, SLC **Job Number:**

Survey Conducted By: Justin Kargis **Title:**

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

7:45 - Exclusion Zone temporarily lifted until 13:15 to accommodate for concrete cut in south east corner and fence adjustment to allow for more space.

10:45 – Miller concrete cutting on site to make saw cut. Finished work by noon.

13:15 - Newman continued excavation, stockpiling, and concrete breaking in EZ. No dump truck loading or hauling today.

Newman finished work by 16:00.

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☑ Secure the site at the end of the workday

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NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

☑ Electronically file photo files into the on-site database

☑ Complete Field Documentation
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PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 12/28/11

Location: 3rd West, 1st South, SLC **Job Number:**

Survey Conducted By: Justin Kargis **Title:**

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
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1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

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1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
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1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
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1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
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Comments:

Exclusion zone active all day.

Newman workers entered EZ to start and place vehicles but didn't use PPE or decontamination procedures. They came out through the east gate a at around 8:15 and then re-entered through the decontamination unit at around 8:30.

9:00 – Eagle Environmental on site to attach reinforced polyester to gaps in EZ perimeter and left about ½ of the roll for future needs.

11:50 – Newman side dump washed out. Only one truck of mixed material hauled out today.

12:45 – Newman removed concrete piers east of new switchgear site. Covered dig site with clean fill. Newman continued to excavate, stockpile, and break concrete.

PACIFICORP

R & R ENVIRONMENTAL, INC.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

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☑ Secure the site at the end of the workday; PacifiCorp Employee

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PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site
Project Safety Audit

Project: 3rd West Sub Station **Date:** 12/29/11
Location: 3rd West, 1st South, SLC **Job Number:**
Survey Conducted By: Jon Craig **Title:** IH Technician

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
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Comments:

CVE is not on site today.

Newman spent the day demolishing concrete in the Southwest area of the exclusion zone. One load of contaminated materials was loaded for disposal at Clean Harbour

Exclusion Zone was active today.

PACIFICORP

R & R ENVIRONMENTAL, INC.

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- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
  - NA Illness/Injury Report Form A
  - NA Site-Specific Training Record Form C
  - NA Hot Work Permit Form D
  - NA Trench/Evacuation Permit Form E
  - NA Combined Space Entry Permit From F
  - NA Exclusion zone operations are practiced as instructed.
    - NA Decontamination unit is working properly.
    - NA Workers are using decontamination unit as instructed.
    - NA Workers use personal protective equipment properly.

- ☑ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☑ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☑ Review sign-in/sign-out log throughout and at the end of the workday.
- ☑ Secure the site at the end of the workday; PacifiCorp Employee

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

NA Electronically file photo files into the on-site database

☑ Complete Field Documentation
- ☑ Field Sample Data Sheets (FSDS)
- ☑ Logbook
- NA On-site computer database

☑ Label each sample media with a unique number

☑ Seal sample(s) in zip lock plastic bags

☑ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory

☑ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples

☑ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees

NA Electronically file sample reports into on-site database

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site
Project Safety Audit

Project: 3rd West Sub Station
Location: 3rd West, 1st South, SLC
Survey Conducted By: Jon Craig
Date: 12/30/11
Job Number:
Title: IH Technician

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	x			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	x			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½" fire resistance barrier.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			x	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE is not on site today.

Newman spent the day excavating in the Southwest area of the exclusion zone. One load of contaminated materials was loaded for disposal at Clean Harbour.

Exclusion Zone was active today.

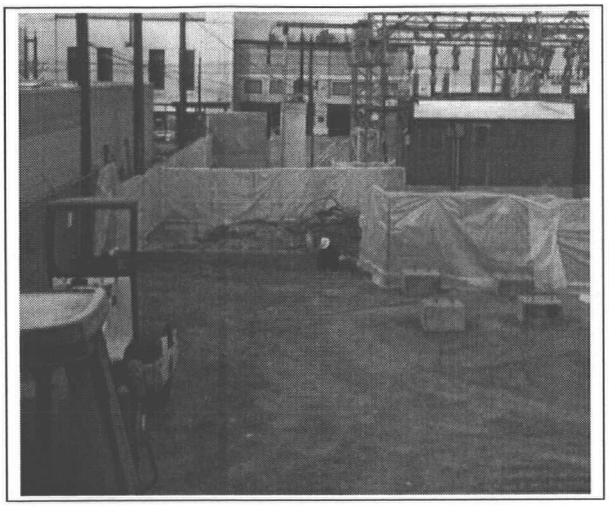

PHOTO 1

PHOTO 2

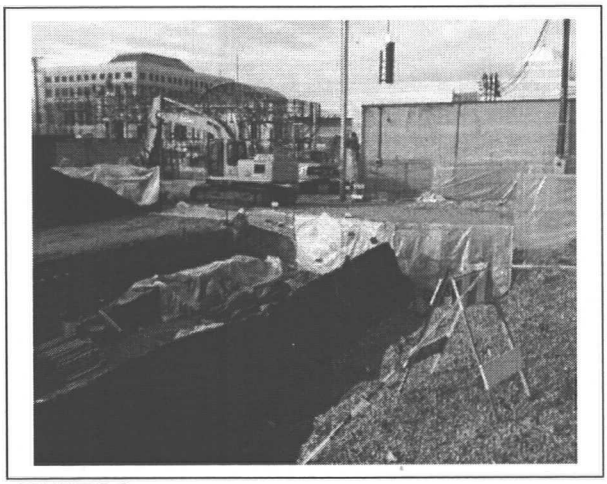

PHOTO 3

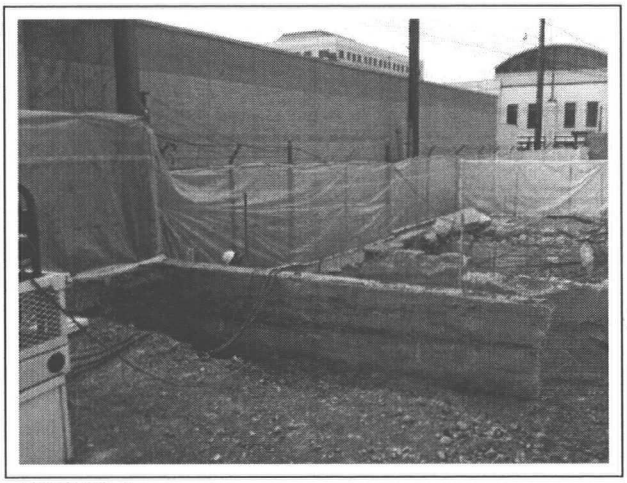

PHOTO 4

R & R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 12/27/2011	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

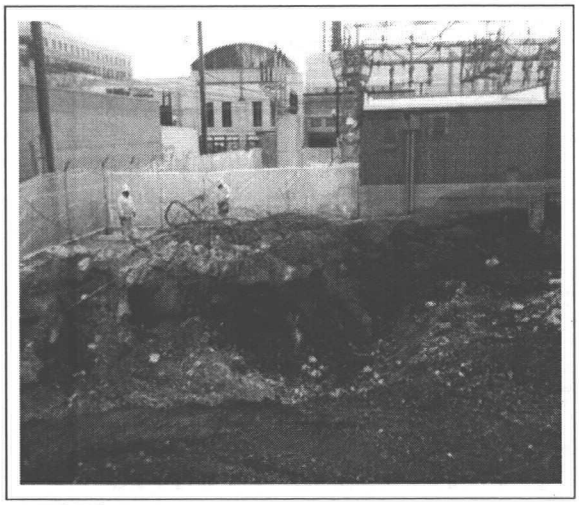

PHOTO 1

PHOTO 2

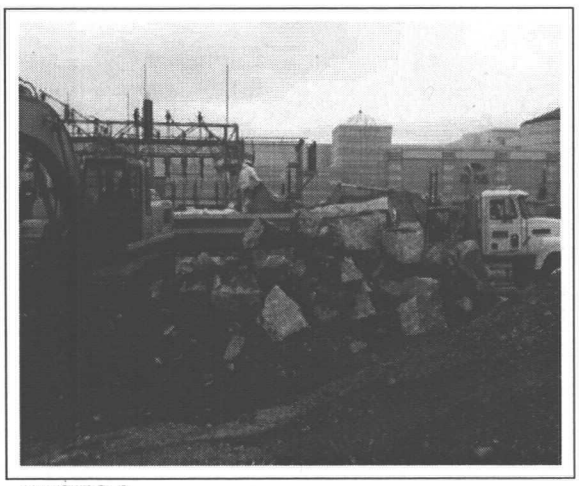

PHOTO 3

PHOTO 4

R & R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:		
DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 12/28/2011	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PHOTO 1

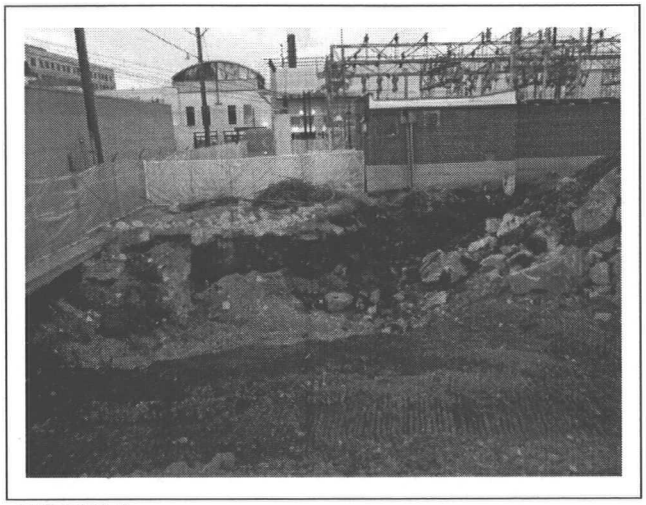

PHOTO 2

PHOTO 3

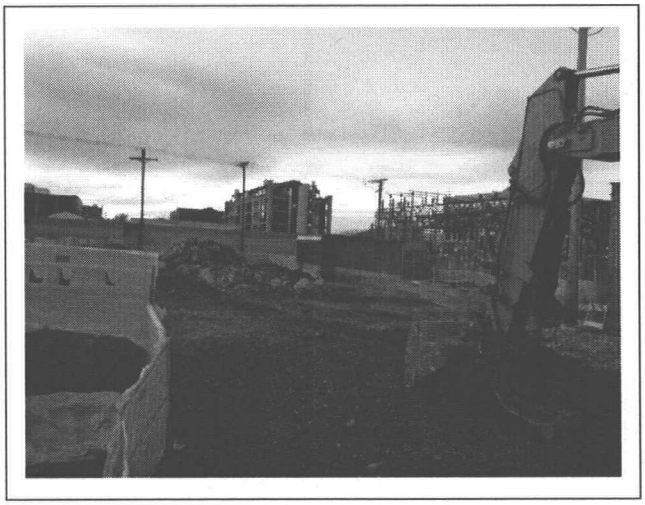

PHOTO 4

R & R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
CREATED BY: JRWC	DATE: 12/29/2011	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

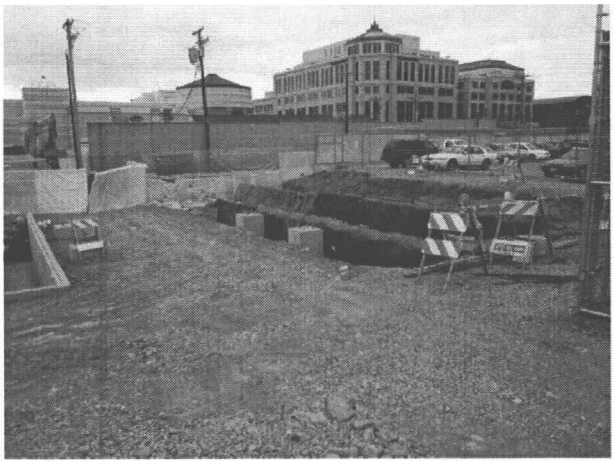

PHOTO 1

PHOTO 2

PHOTO 3

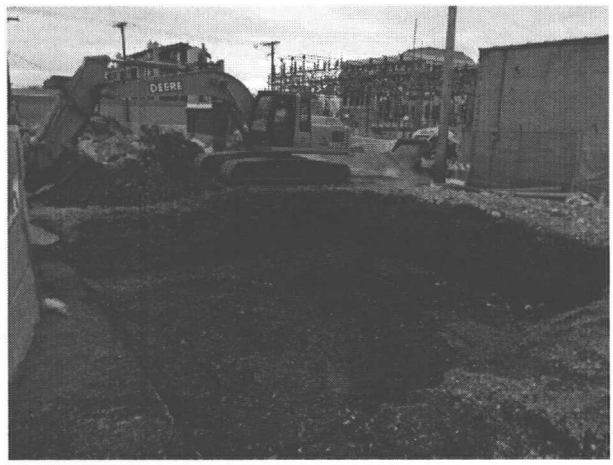

PHOTO 4

R & R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
CREATED BY: JRWC	DATE: 12/30/2011	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Tuesday, December 27, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	7:00	**Crew Stop Time:**	17:00	**Tot Hrs mns:**	10:00
FCR Start Time:	6:45	**FCR Stop Time:**	17:10	**Tot Hrs mns:**	10:25

Use military time format *00:00*

WEATHER CONDITIONS: Sunny - 18 degress in AM, 40 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew not on site today. Miller Concrete Cutting came on site and cut the north-south retaining wall near the south end to provide the 3' return as required on the Demo drawing. Newman relocated the fence along the east side of the EZ to provide access for the wall cut and the west end of the switchgear excavation area. The relocation required the addition of some panels and visqueen was added to the additional panels. Newman continued breaking out concrete in the south switchgear vault. No hauling of material was perfonned today. Newman = 3, R&R = 1, Miller = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Manny LuHaun 0645
Dispatcher logout, name and time:	Gus Montanez 1710

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site	CVE to provide CO for removing the additonal concrete.
11/16 - No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.
11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were fold to oroceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceotable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try aaain. Actual deoth will be much deeoer than desian of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex , exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Nevman: portable wash-down structure, trachoe (2), mini-ex, botcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Wednesday, December 28, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	7:00	**Crew Stop Time:**	16:30	**Tot Hrs mns:**	9:30
FCR Start Time:	6:40	**FCR Stop Time:**	16:50	**Tot Hrs mns:**	10:10

Use military time format 00:00

WEATHER CONDITIONS: Cloudy, 24 degress in AM, 42 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew not on site today. Newman continued tearing out concrete in the south part of the yard and loaded out one tmck with concrete/dirt to be hauled to Clean Harbors. Newman pulled out the two pier foundations that were in the west end of the new switchgear foundation area. Nevrman expects to haul out another load on Thursday and will then start excavating the west end of the switchgear foundation in anticipation of the CVE fab crew working on the switchgear footings on Tuesday, 1/3. I had conversations with Bre Wiggins and Ben Fowler regarding their inspection of the 46 kV ductbank to determine if we are going to be OK placing the switchgear footing over the top of the ductbank. Ben will drop by to take a look at it when we get it excavated. Nevrman = 4, R&R = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Gus Montanez 0642
Dispatcher logout, name and time:	Gus Montanez 1650

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site	CVE to provide CO for removing the additonal concrete.
11/16 - No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.
11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to oroceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual deoth will be much deeper than desian of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex , exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Thursday, December 29, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	7:30	**Crew Stop Time:**	16:20	**Tot Hrs mns:**	8:50
FCR Start Time:	6:45	**FCR Stop Time:**	16:40	**Tot Hrs mns:**	9:55

Use military time format 00:00

WEATHER CONDITIONS: Cloudy, Light Rain, 40 degrees in AM, 59 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew not on site today. Newman started breaking out the two large hexagon foundation, found previously, and completed the removal of the north foundation in less than two hours. The second foundation required an additional 1.5 hours. Work to remove these two foundations required three people, two trackhoes, and a water truck. Newman loaded out one load of concrete/dirt that will be delivered to Clean Harbors on Friday, 12/30. Total of 37 Newman = 4, R&R = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Manny LuHaun 0645
Dispatcher logout, name and time:	Darrell Lewis 1640

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site	CVE to provide CO for removing the additonal concrete.
11/16 - No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.
11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try aaain. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex , exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Friday, December 30, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	7:30	**Crew Stop Time:**	15:00	**Tot Hrs mns:**	7:30
FCR Start Time:	6:50	**FCR Stop Time:**	15:30	**Tot Hrs mns:**	8:40

Use military time format *00:00*

WEATHER CONDITIONS: Overcast, 40 degrees in AM, 55 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew not on site today. Newman spent most of the day in the EZ excavating for the west end of the switchgear. Newrnan exposed the duct bank and John Mancini (RMP) Engineer examined the material under the duct bank and OK'd the placement of the switchgear footing over the ductbank. He also approved Wilding to witness the proof roll on the excavatiion before Newman starts to place the 1' of backfill in the overexcavation. Newman moved spoils from the excavation to the south end of the yard. Newrnan = 3, R&R = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Manny LuHaun 0648
Dispatcher logout, name and time:	Ken Barteau 1530

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site	CVE to provide CO for removing the additonal concrete.
11/16 - No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.
11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
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DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex , exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

Russ Johnson
Field Construction Representative

REI LAB Reservoirs Environmentol, Inc.

December 29, 2011

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 226740-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226740-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5301 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 226740-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	December 28, 2011
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	December 29, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W-122711 S	EM 842327	0.1000	708	ND	0.0054	BAS	BAS
3W-122711 W	EM 842328	0.0900	940	ND	0.0046	BAS	BAS
3W-122711 N	EM 842329	0.0900	938	ND	0.0046	BAS	BAS
3W-122711 E	EM 842330	0.0900	938	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

DATA QA

RES 226740

Due Date: 12/28/11
Due Time: 9am

Reservoirs Environmental, Inc.

6801 Logan St. Osnvor, CO 80216 • Ph: 303 864-1986 • Fax 309-477-4276 • Toll Free :866 RESI-ENV
Pager : 303-509-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)		CONTACT INFORMATION:	
Company: R&R Environmental	Company:	Contact: Dave Roskelley	Contact:
Address: 47 W 9000 S	Address:	Phone:	Phone:
Sandy Ut. 84070		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 35th West Subs - RAID			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
PLM / PCM / TEM ___ RUSH (Same Day) X PRIORITY (Next Day) ___ STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm
Metal(s) / Dust ___ RUSH ___ 24 hr. ___ 3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___ 10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day
Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 5pm
E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___ 2 Day ___ 3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___ 3-5 Day
Mold ___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	LAB NOTES: EM Number (Laboratory Use Only)
1 3W-1227H S		X															808	A		12/27/11		042327
2 3W-1227H W		↓															940	↓		↓		28
3 3W-1227H N		↓															938	↓		↓		29
4 3W-1227H E		↓															938	↓		↓		30
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] FedEx Date/Time: 12/27/11
Sample Condition: On Ice Yes / No Sealed Yes / No Intact Yes / No
Temp. (F°) ____

Laboratory Use Only
Received By: [signature] Date/Time: 12/28/11 9am Carrier: Fedex

Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials
	Dave (msg)				12/29/11	9:20am	AB							
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials

fax # 7548 9482 7709

7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

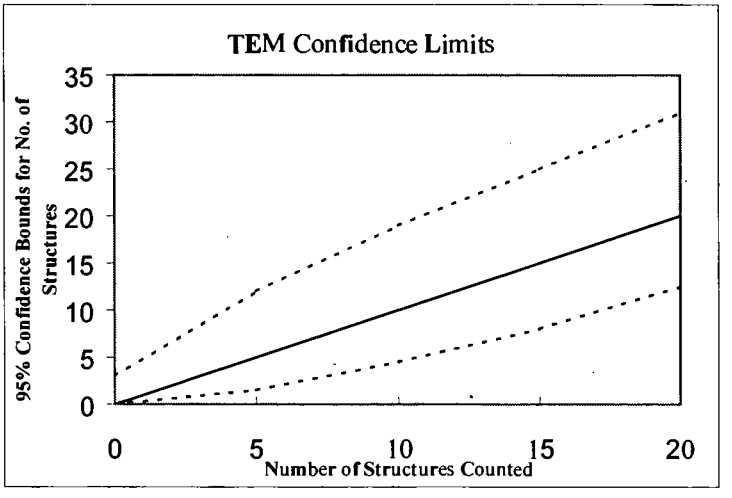
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	708
Date received by lab	12/28/11
Lab Job Number:	226740
Lab Sample Number:	842327

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/29/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-3	ND												
	G3-3	ND												
	F3-3	ND			Pmp		A	75% tremolite			10-15% debris			
	E3-3	ND			Pmp		B	80% tremolite			10-15% debris			
	C3-3	ND												
B	K5-4	ND									12/29/11			
	H5-4	ND												
	G5-4	ND												
	F5-4	ND												
	E5-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile QA-BK NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	940
Date received by lab	12/28/11
Lab Job Number:	226740
Lab Sample Number:	842328

Analyzed by	JB
Analysis date	12/29/11
Method (D=Direct, t=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F4-6	ND												
	E4-6	ND					Prep A	80% hematite		7%	debris			
	C4-6	ND					Prep B	70% hematite		7%	debris			
	E4-4	ND												
	C4-4	ND						JB 12/29/11						
	B4-4	ND												
B	F3-4	ND												
	E3-4	ND												
	C3-4	ND												

LA = Libby-type amphibole　　OA = Other (non-Libby type) amphibole　　C = Chrysotile　　NAM = Non-asbestos material

Reservpfrs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: IL =	0.28 um
Scale: ID =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	938
Data received by lab	12/28/11
Lab Job Number:	226740
Lab Sample Number:	842329

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/29/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Data Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yee, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K3-1	ND												
	H3-1	ND												
	G3-1	ND				Prep	A	70% amphibole			7% debris			
	H3-6	ND				Prep	B	80% amphibole			7% debris			
	G3-6	ND												
B	K4-3	ND						NB	12/29/11					
	H4-3	ND												
	G4-3	ND												
	F4-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.055 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	938
Date received by lab	12/28/11
Lab Job Number:	226740
Lab Sample Number:	342330

F-Factor Calculation (Indirect Props Only):

Fraction of primary filtsr used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/29/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM	Sketch/Comments	Sketch	Photo	EDS
A	G4-1	ND												
	F4-1	ND				Prop	A	60%		10%	debris			
	E4-1	ND				Prop	B	60%		10%	debris			
	C4-1	ND												
	B4-1	ND												
B	E4-4	ND												
	C4-4	ND												
	B4-4	ND												
	A4-4	ND												

JB 12/29/11

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm}^2 = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

File: Shared on server T/Offfonns.sg/AHERA Procedures
Revised: 02/27/02

REI LAB Reservoirs Environmentol, Inc.

December 30, 2011

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 226820-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226820-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 226820-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	December 29, 2011
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	December 30, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm^2)	(L)		(s/cc)	(s/cc)	(s/mm^2)
3W-122811 S	EM 842844	0.1000	163	1	0.0236	0.0236	10.0
3W-122811 W	EM 842845	0.0900	929	ND	0.0046	BAS	BAS
3W-122811 N	EM 842846	0.0900	927	ND	0.0046	BAS	BAS
3W-122811 E	EM 842847	0.0900	929	1	0.0046	0.0046	11.1

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 226820-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: December 29, 2011
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: December 30, 2011

Client ID Number	Lab ID Number		Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
				Fibers	Bundles	Clusters	Matrices			
3W-122811 S	EM	842844	Chrysotile	1	0	0	0	0	0	1
3W-122811 W	EM	842845	ND	0	0	0	0	0	0	0
3W-122811 N	EM	842846	ND	0	0	0	0	0	0	0
3W-122811 E	EM	842847	Chrysotile	0	0	0	1	0	0	1

*See Analytical Procedure for definitions
**C = Excluded from total due to lack of confirmation
**L = Excluded from total for length less than 0.5 micron (AHERA only)
**A = Excluded from total due to incorrect aspect ratio
ND = None Detected

Due Date: 12-30-11
Due Time: 8 Sam

RES 226820

Reservoirs Environmental, Inc.

5961 Logan St. Denver, CO 80216 • Ph: 303 964-1968 • Fax 303-477-4279 • Toll Free :866 RESI-ENV
Pagar : 303-809-8096

Page 1 of 1

INVOICE TO: (IF DIFFERENT) | **CONTACT INFORMATION:**

Company: R&R Environmental	Company:	Contact: Dave Rockelley	Contact:
Address: 47 W 9000 S Sandy Ut. 84070	Address:	Phone:	Phone:
		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager:
Project Number and/or P.O. #:		Final Data Delivarable Email Address:	
Project Description/Location: 3rd West Sub - RMP			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ___ RUSH (Same Day) X PRIORITY (Next Day) ___ STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: Sam - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___ 3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___ 10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: Sam - 6pm

E.coli O1S7:H7, Coliforms, S.aureus ___ 24 hr. ___ 2 Day ___ 3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___ 3-5 Day
Mold ___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 3W-122811S		X															163	A		12/28/11		42844
2 3W-122811W		↓															929	↓				45
3 3W-122811N																	927					46
4 3W 122811E																	929					↓ 47
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] FedEx Date/Time: 12/28/11

Laboratory Use Only
Received By: [signature] Date/Time: 12-29-11 @ 850 Carrier: FedEx

Sample Condition: On Ice Yes / No | Sealed Yes / No | Intact (Yes) / No
Temp. (F°) ____

Results: Contact Dave Phone Email Fax Date 12/30/11 Time 9:20a Initials [signature]
Contact Phone Email Fax Date Time Initials
Contact Phone Email Fax Date 12-30-11 Time 1454 Initials [signature]
Contact Phone Email Fax Date Time Initials

Fax #: 7934 5998 7834

7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
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C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
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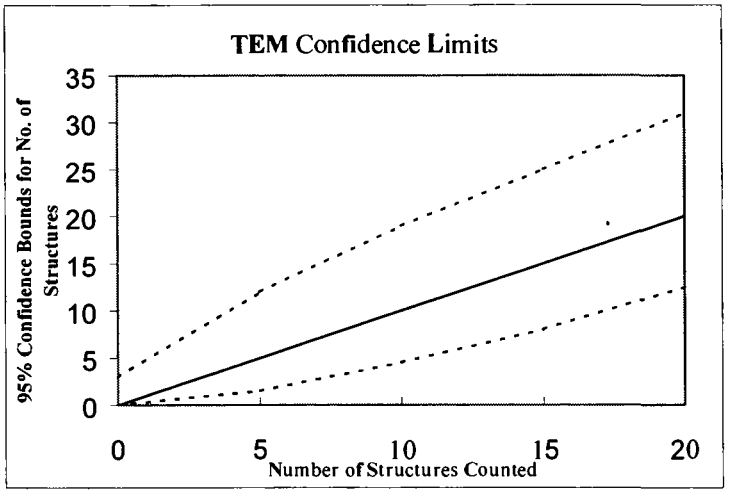
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Maanification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primaiy filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	R&R
Samole Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	163
Date received by lab	12/29/11
Lab Job Number:	220820
Lab Sample Number:	84284

F-Factor Calculation (Indirect Preps Oniy):

Fraction of primary filtar used	
Total Resuspension Volume (ml)	
Volums Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/30/11
Method (D=Oirect, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-1	ND												
	H4-1	F		1	6	1	CD		V					
	G4-1	ND												
	F4-1	ND			Pump A		80% in fmt			5-7% debris				
	E4-1	ND			Pump B		60% in fmt			5-7% debris				
B	F4-3	ND												
	E4-3	ND					12/30/11							
	F3-3	ND												
	E3-6	ND												
	E3-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	885
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	R&K
Samole Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	12/29/11
Lab Job Number:	2210520
Lab Sample Number:	84284 5

F-Factor Calculation (Indirect Preps Only):

Fraction of ptimary tilter used	
Total Resuspension Volume (ml)	
Volume Applied to socondary filtsr (ml)	

Analyzed by	JB
Analysis date	12/30/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Type	Nc. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no.		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-6	ND												
	H3-3	ND												
	G3-6	ND					Pmp A 60% on fmt				5% debris			
	G3-4	ND					Pmp B 70% on fmt				5% debris			
	F3-4	ND												
B	G2-6	ND					AB 12/30/11							
	F2-6	ND												
	E2-6	ND												
	C2-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&K
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	927
Date received by lab	12/29/11
Lab Job Number:	226820
Lab Sample Number:	84284 6

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/30/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Data Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amohibole	C	NAM		Sketch	Photo	EDS
A	G3-6	ND												
	F3-6	ND			Prep	A	90% intact		5%	debris				
	E3-6	ND			Prep	B	90% intact		5%	debris				
	C3-6	ND												
	B3-6	ND												
B	H3-3	ND					A/B 12/30/11							
	G3-3	ND												
	F3-3	ND												
	E3-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&K
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Data received by lab	12/29/11
Lab Job Number:	226820
Lab Sample Number:	842847

F-Factor Calculation (Indirect Preps Only):

Fraetion of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filtsr (ml)	

Analyzed by	JB
Analysis date	12/30/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Type	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	#2-3	ND												
	G2-3	ND					Prep A	80% matrix		5% debris				
	F2-3	ND					Prep B	90% matrix		5% debris				
	E2-3	ND												
	C2-3	ND												
B	K3-4	M		1	2	1	CD		✓		✓			
	H3-4	ND												
	G3-4	ND												
	F3-4	ND						12/30/11						

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

File: Shared on server T/Offforms.sg/AHERA Procedures
Revised: 02/27/02

REI LAB Reservoirs Environmentol, Inc.

January 2, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 226898-1
Project # / P.O. #	None Given
Project Description:	3rd West Substation

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory Is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226898-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5801 Logan Street Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0815

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 226898-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Substation
Date Samples Received:	December 30, 2011
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	December 30, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W1229-N	EM 843363	0.0800	1072	ND	0.0045	BAS	BAS
3W1229-S	EM 843364	0.0800	1070	ND	0.0045	BAS	BAS
3W1229-E	EM 843365	0.0800	1070	ND	0.0045	BAS	BAS
3W1229-W	EM 843366	0.0800	1072	ND	0.0045	BAS	BAS
Blank	EM 843367	NA	0	NA	----	----	----
Blank	EM 843368	NA	0	NA	----	----	----

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

DATA QA

Due Date: 12-30-11
Due Time: 855

RES 226898

Reservoirs Environmental, Inc.

5861 Logan St. Denver, CO 80216 • Ph: 303 964-1666 • Fax 303-477-4375 • Toll Free :888 RESI-ENV
Pager : 303-609-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

Company: RRR Environmental, Inc.	Company:
Address: 47 W. 9000 S. #B Sandy, Utah 84070	Address:

CONTACT INFORMATION:

Contact: Dave Rossetti	Contact:
Phone: 801.541.1035	Phone:
Fax:	Fax:
Cell/pager:	Cell/pager:
Final Data Deliverable Email Address: DAVE@RRENVIRO.COM	

Project Number and/or P.O. #:
Project Description/Location: 35th West Substation

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
PLM / PCM (TEM) ___ RUSH (Same Day) X PRIORITY (Next Day) ___ STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm
Metal(s) / Dust ___ RUSH ___ 24 hr. ___ 3-6 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___ 10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day
Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 5pm
E.coli O157:H7, Colifonne, S.aureus ___ 24 hr. ___ 2 Day ___ 3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___ 3-5 Day
Mold ___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instruellona:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOSY: Salmonella: +/-	MICROBIOLOSY: E.coli O157:H7: +/-	MICROBIOLOSY: Listeria: +/-	MICROBIOLOSY: Aerobic Plate Count: +/- or Quantification	MICROBIOLOSY: E.coli: +/- or Quantification	MICROBIOLOSY: Coliforms: +/- or Quantification	MICROBIOLOSY: S.aureus: +/- or Quantification	MICROBIOLOSY: Y & M: +/- or Quantification	MICROBIOLOSY: Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 3W1229-N		AHERA															1,072	A	1	12/29/11		843363
2 -S		↓															1,090	↓	↓	↓		64
3 -E		↓															1,070	↓	↓	↓		65
4 -W		↓															1,072	↓	↓	↓		66
5 Blank																						67
6 Blank																						↓ 68
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 6 (Additional samples shall be listed on attached long form.)

*NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: 12/29/11 Date/Time: 1900

Laboratory Use Only
Received By: Date/Time: 12/30/11 @ 855 Carrier: FedEx

Sample Condition: On Ice Yes / No Sealed Yes / No Intact (Yes) / No
Temp. (F°) ____

Results:

Contact Dave	Phone Email Fax	Date 12/30	Time 7:50	Initials	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials	
Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials	

(left msg) fax #: 6475 3828 4567

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

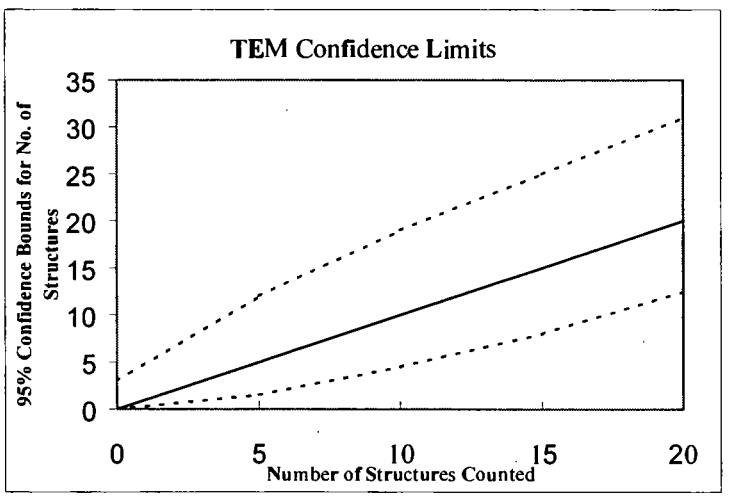
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard
Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Maanification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1070
Date received by lab	12/30/11
Lab Job Number	226898
Lab Sample Number	843364

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	TK
Analysis date	12/30/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K5-3	ND												
	H5-3	ND					Prep A	80% intact ~5% debris						
	G5-3	ND					Prep B	~90% intact ~5% debris						
	F5-3	ND						TK/KM 12/30/11						
B	G3-3	ND												
	F3-3	ND												
	E3-3	ND												
	C3-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1072
Date received by lab	12/30/11
Lab Job Number:	226898
Lab Sample Number:	843363

F-Factor Calculation (indirect Preps Only):

Fraction of primary filter used	
Total Reauspansion Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	LK
Analysis date	12/30/11
Method (D=Direct, i=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	FS-1	ND												
	QS-1	ND					Prep A	~90% intact	~5%	debris				
	CS-1	ND					Prep B	NAD	1m/fm	12/30/11				
	135-1	ND												
B	F4-4	ND												
	Q4-4	ND												
	C4-4	ND												
	B4-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1070
Date received by lab	12/30/11
Lab Job Number	226898
Lab Sample Number	843364

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	TK
Analysis date	12/30/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	KS-3	ND												
	HS-3	ND					Prep A	80% intact ~5% debris						
	GS-3	ND					Prep B	~90% intact ~5% debris						
	FS-3	ND						Tm/Km 12/30/11						
B	G3-3	ND												
	F3-3	ND												
	E3-3	ND												
	C3-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mn)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm}^2 = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed (mm}^2)}$$

GO = TEM grid opening

File: Shared on server T/Offfonns.sg/AHERA Procedures
Revised. 02/27/02

REI LAB Reservoirs Environmentol, Inc.

January 4, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 227019-1
Project # / P.O. #	None Given
Project Description:	RMP - 3rd West Substation

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227019-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

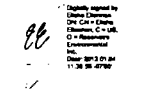
TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 227019-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: RMP - 3rd West Substation
Date Samples Received: January 3, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: January 4, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W1230-N	EM 844059	0.0800	1042	ND	0.0046	BAS	BAS
3W1230-S	EM 844060	0.0800	1038	ND	0.0046	BAS	BAS
3W1230-E	EM 844061	0.0800	1038	ND	0.0046	BAS	BAS
3W1230-W	EM 844062	0.0800	1046	ND	0.0046	BAS	BAS
Blank	EM 844063	NA	0	NA	---	---	---
Blank	EM 844064	NA	0	NA	---	---	---

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm



DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 227019-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: RMP - 3rd West Substation
Date Samples Received: January 3, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: January 4, 2012

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W1230-N	EM 844059	ND	0	0	0	0	0	0	0
3W1230-S	EM 844060	ND	0	0	0	0	0	0	0
3W1230-E	EM 844061	ND	0	0	0	0	0	0	0
3W1230-W	EM 844062	ND	0	0	0	0	0	0	0
Blank	EM 844063	NA							
Blank	EM 844064	NA							

*See Analytical Procedure for definitions
**C = Excluded from total due to lack of confirmation
**L = Excluded from total for length less than 0.5 micron (AHERA only)
**A = Excluded from total due to incorrect aspect ratio
ND = None Detected

RES 227019

Due Date: 1-4-12
Due Time: 9:25a

Reservoirs Environmental, Inc.

REILAB

6601 Logan St Denver, CO 80216 • Ph: 303 964-1968 • Fax 303-477-4278 • Toll Free :866 RESI-ENV
Pager : 303-599-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

Company:	
Address:	

CONTACT INFORMATION:

Company:	R&R Environmental, Inc.
Address:	47 W 9000 S, #2 Sandy, Utah 84070
Contact:	Dave Rostell
Phone:	801.541.1035
Fax:	
Cell/pager:	
Project Number and/or P.O. #:	
Project Description/Location:	RMP - 3rd West Substation
Final Data Deliverable Email Address:	DAVE@RRENVIRO.COM

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / (TEM) ___ RUSH (Same Day) X PRIORITY (Next Day) ___ STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___ 3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___ 10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 5pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___ 2 Day ___ 3-5 Day
Salmonella, Listaria, E.coli, APC, Y & M ___ 48 Hr. ___ 3-5 Day
Mold ___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	MICROBIOLOGY: E.coli O157:H7: +/-	MICROBIOLOGY: Listeria: +/-	MICROBIOLOGY: Aerobic Plate Count: +/- or Quantification	MICROBIOLOGY: E.coli: +/- or Quantification	MICROBIOLOGY: Coliforms: +/- or Quantification	MICROBIOLOGY: S.aureus: +/- or Quantification	MICROBIOLOGY: Y & M: +/- or Quantification	MICROBIOLOGY: Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 3W1230-N		AHERA															1,042	A		12/30/11		24459
2 -S		↓															1,036	↓		↓		60
3 -E																	1,036					61
4 -W		↓															1,041	↓		↓		62
5 Blank																	∅					63
6 Blank																	∅					64
7																						↓ 65
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 6 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain-of-Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: 12/30/11 Date/Time: 1800

Laboratory Use Only
Received By: Date/Time: 1-3-12 @ 925a Carrier: FedEx

Sample Condition: On Ice Yes / No Sealed Yes / No Intact (Yes) / No
Temp. (F°) ____

Results:												
Contact Dave	Phone Email Fax	Date 1/4/12	Time 8:45a	Initials	Contact	Phone Email Fax	Date	Time	Initials
Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

Tracking #: 8075 3828 4548

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

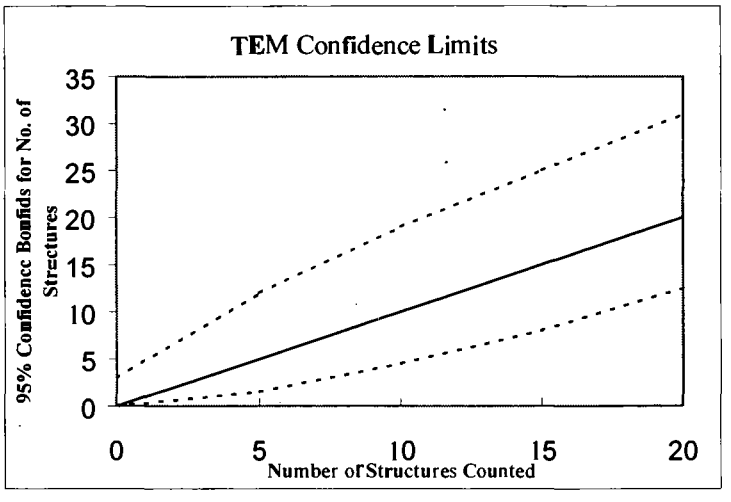
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rork
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1042
Date received by lab	1/3/12
Lab Job Numben	227019
Lab Sample Number:	844059

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filtsr used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-3	ND												
	G3-3	ND												
	F3-3	ND			Pnp A		80% intact		3-5% debris					
	E3-3	ND			Pnp B		80% intact		3-5% debris					
	C3-3	ND												
B	H4-4	ND						JB 1/4/12						
	G4-4	ND												
	F4-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RorR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1038
Date received by lab	1/3/12
Lab Job Number:	227019
Lab Sample Number:	544060

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	1/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	H3-6	ND												
	G3-6	ND												
	F3-6	ND			Rup A		80% in bundles			20% debris				
	E3-6	ND			Rup B		60% in bundles			20% debris				
B	H5-4	ND												
	G5-4	ND												
	F5-4	ND												
	C5-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbssfos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filtar Area (mm2)	
QA Type	

Client :	RoR
Sample Type (A=Air, D=Dusl):	A
Air volume (L) or dust area (cm2)	1038
Date received by lab	1/3/12
Lab Job Number:	227019
Lab Sample Number:	5H4D61

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/4/12
Method (D=Direct, I=Indirsct, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scops Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Type	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E5-1	ND												
	E5-1	ND			Rep A			70% matrix		5% debris				
	C5-1	ND			Rep B			60% matrix		5% debris				
	B5-1	ND												
B	G2-3	ND						1/4/12						
	H2-3	ND												
	G2-3	ND												
	F2-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Rsservoirs Environmental, Inc.

TEM Asbestos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magntfication	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	388
Secondary Filter Area (mm2)	
QA Type	

Client :	Rark
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1046
Date received by lab	1/3/12
Lab Job Number:	227019
Lab Sample Number:	544062

F-Factor Calculation (Indirect Preps Only):

Fraction of primery filter used	
Total Resuspenskm Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/4/12
Method (D=Oirect, I=Indirect, IA=Indiract, ashed)	D
Counting mies (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Typo	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-1	ND												
	H4-1	ND			Prep		A	70% intact		5% debris				
	G4-1	ND			Prep		B	90% intact		5% debris				
	F3-1	ND												
B	G4-4	ND												
	F4-4	ND												
	E4-4	ND						JB 1/4/12						
	C4-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviadon from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

File: Shared on server T/Offforms.sg/AHERA Procedures
Revised: 02/27/02